



**STATE OF TENNESSEE  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL  
Lab Services - Jackson Regional Lab  
Jackson, TN 38301  
731-426-0686

TDH: Lab Services KRL  
Lab Services - Knoxville Regional Lab  
Knoxville, TN 37920  
865-549-5201

TDH: Lab Services NCL  
Lab Services - Nashville Central Lab  
Nashville, TN 37243  
615-262-6300

**Sent To:** Greg Denton  
TDEC-WPC  
6th Floor, L & C Tower Annex  
401 Church Street  
Nashville, TN 37243-1534

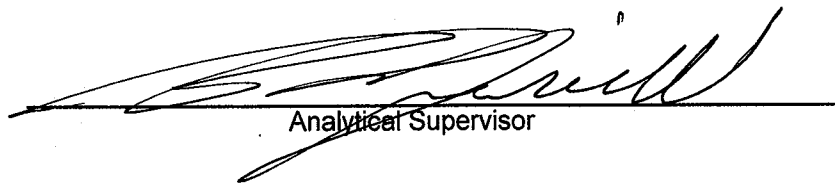
Michael Atchley  
TDEC-WPC  
Knoxville FO  
3711 Middlebrook Pike  
Knoxville, TN 37921

**Lab ID:** K00002289  
Knoxville Regional Laboratory

**Sampling Agency:** TDEC: Division of Water Pollution Control

**Billing Code:** 327.34-20

This is to certify that the following results were determined using  
good laboratory practices and in accordance with federal or state  
approved methodologies.



Analytical Supervisor

**Lab-Sample Number:** K00002289001  
**Project Name:**  
**Sample Description:** Emory River mile 12.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY012.1RO  
**Date/Time Collected:** 04/16/2009 10:18  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 04/16/2009 15:16  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.98 pH Units  
**Chlorine, residual:**  
**Conductivity:** 692 uMHO  
**Temperature:** 11.61  
**Dissolved Oxygen:** 11.92 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	10	mg/L	3.8	10	M Chen	4/21/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	12	mg/L	0.7	1	M Chen	4/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	4/17/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	4/17/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002289002  
**Project Name:**  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 04/16/2009 11:20  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 04/16/2009 15:16  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.44 pH Units  
**Chlorine, residual:**  
**Conductivity:** 660 uMHO  
**Temperature:** 12.51  
**Dissolved Oxygen:** 11.24 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	14	mg/L	3.8	10	M Chen	4/21/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	14	mg/L	0.7	1	M Chen	4/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	4/17/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	70	mg/L	10	10	A Peoples	4/17/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002289003  
**Project Name:**  
**Sample Description:** Emory River mile 1.7  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 3  
**Station No.:** EMORY001.7RO  
**Date/Time Collected:** 04/16/2009 11:35  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 04/16/2009 15:16  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.18 pH Units  
**Chlorine, residual:**  
**Conductivity:** 663 uMHO  
**Temperature:** 11.81  
**Dissolved Oxygen:** 11.51 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	13	mg/L	3.8	10	M Chen	4/21/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	12	mg/L	0.7	1	M Chen	4/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	4/17/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	13	mg/L	10	10	A Peebles	4/17/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002289004  
**Project Name:**  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 4  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 04/16/2009 11:47  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 04/16/2009 15:16  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.13 pH Units  
**Chlorine, residual:**  
**Conductivity:** 660 uMHO  
**Temperature:** 11.82  
**Dissolved Oxygen:** 11.38 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	13	mg/L	3.8	10	M Chen	4/21/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	14	mg/L	0.7	1	M Chen	4/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	4/17/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	15	mg/L	10	10	A Peebles	4/17/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002289005  
**Project Name:**  
**Sample Description:** Clinch River mile 2.3 near Hwy 70 bridge  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 04/16/2009 11:58  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 04/16/2009 15:16  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.20 pH Units  
**Chlorine, residual:**  
**Conductivity:** 675 uMHO  
**Temperature:** 12.76  
**Dissolved Oxygen:** 11.30 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	40	mg/L	3.8	10	M Chen	4/21/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	35	mg/L	0.7	1	M Chen	4/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	4/17/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	18	mg/L	10	10	A Peebles	4/17/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

Lab-Sample Number: K00002289006

Project Name:

Sample Description: Clinch River mile 4.5 near Sugar Grove Valley R

Sampler Project Name: TVA Ash Spill

Project Site No.: 6

Station No.: CLINC004.5RO

Date/Time Collected: 04/16/2009 12:09

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date:

Date/Time Received: 04/16/2009 15:16

Received By: E McCrary

#### Field Determinations

pH: 7.45 pH Units

Chlorine, residual: 768 uMHO

Conductivity: 768 uMHO

Temperature: 13.38

Dissolved Oxygen: 11.70 mg/L

Other:

Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	M Chen	4/21/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	85	mg/L	0.7	1	M Chen	4/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	4/17/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	12	mg/L	10	10	A Peebles	4/17/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected



**STATE OF TENNESSEE  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL  
Lab Services - Jackson Regional Lab  
Jackson, TN 38301  
731-426-0686

TDH: Lab Services KRL  
Lab Services - Knoxville Regional Lab  
Knoxville, TN 37920  
865-549-5201

TDH: Lab Services NCL  
Lab Services - Nashville Central Lab  
Nashville, TN 37243  
615-262-6300

**Sent To:** Greg Denton  
TDEC-WPC  
6th Floor, L & C Tower Annex  
401 Church Street  
Nashville, TN 37243-1534

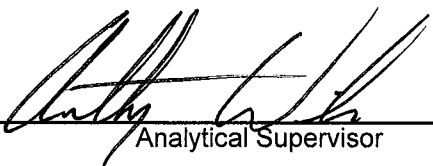
Michael Atchley  
TDEC-WPC  
Knoxville FO  
3711 Middlebrook Pike  
Knoxville, TN 37921

**Lab ID:** K00002289  
Knoxville Regional Laboratory

**Sampling Agency:** TDEC: Division of Water Pollution Control

**Billing Code:** 327.34-20

This is to certify that the following results were determined using good laboratory practices and in accordance with federal or state approved methodologies.

  
\_\_\_\_\_  
Analytical Supervisor



**Lab-Sample Number:** K00002289001  
**Project Name:**  
**Sample Description:** Emory River mile 12.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY012.1RO  
**Date/Time Collected:** 04/16/2009 10:18  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 04/16/2009 15:16  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.98 pH Units  
**Chlorine, residual:**  
**Conductivity:** 692 uMHO  
**Temperature:** 11.61  
**Dissolved Oxygen:** 11.92 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	04/20/2009				A Wilson	4/20/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	340	µg/L	2.9	10	A Bass	4/27/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	340	µg/L	6.4	10	M Pattanayek	4/20/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	4/21/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	4/21/2009
Barium	29	µg/L	2.5	5	M Pattanayek	4/21/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	4/21/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	4/21/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	4/21/2009
Cobalt	0.39J	µg/L	0.04	1	M Pattanayek	4/21/2009
Copper	1.8	µg/L	0.38	1	M Pattanayek	4/21/2009
Lead	0.39J	µg/L	0.10	1	M Pattanayek	4/21/2009
Manganese	37	µg/L	0.42	1	M Pattanayek	4/21/2009
Nickel	1.3	µg/L	0.25	1	M Pattanayek	4/21/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	4/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	4/21/2009
Thallium	0.07J	µg/L	0.03	1	M Pattanayek	4/21/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	4/21/2009
Zinc	7.7	µg/L	1.9	5	M Pattanayek	4/21/2009

**Lab-Sample Number:** K00002289001  
**Project Name:**  
**Sample Description:** Emory River mile 12.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY012.1RO  
**Date/Time Collected:** 04/16/2009 10:18  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 04/16/2009 15:16  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.98 pH Units  
**Chlorine, residual:**  
**Conductivity:** 692 uMHO  
**Temperature:** 11.61  
**Dissolved Oxygen:** 11.92 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.094J	µg/L	0.025	0.20	A Jeffries	4/22/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002289002  
**Project Name:**  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 04/16/2009 11:20  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 04/16/2009 15:16  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.44 pH Units  
**Chlorine, residual:**  
**Conductivity:** 660 uMHO  
**Temperature:** 12.51  
**Dissolved Oxygen:** 11.24 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	04/20/2009				A Wilson	4/20/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	1800	µg/L	2.9	10	A Bass	4/27/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	3600	µg/L	32.0	50	M Pattanayek	4/24/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	4/21/2009
Arsenic	11	µg/L	0.93	5	M Pattanayek	4/21/2009
Barium	100	µg/L	2.5	5	M Pattanayek	4/21/2009
Beryllium	0.46J	µg/L	0.11	1	M Pattanayek	4/21/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	4/21/2009
Chromium	3.6J	µg/L	2.0	5	M Pattanayek	4/21/2009
Cobalt	1.8	µg/L	0.04	1	M Pattanayek	4/21/2009
Copper	6.9	µg/L	0.38	1	M Pattanayek	4/21/2009
Lead	4.3	µg/L	0.10	1	M Pattanayek	4/21/2009
Manganese	36	µg/L	0.42	1	M Pattanayek	4/21/2009
Nickel	4.1	µg/L	0.25	1	M Pattanayek	4/21/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	4/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	4/21/2009
Thallium	0.24J	µg/L	0.03	1	M Pattanayek	4/21/2009
Vanadium	8.7	µg/L	3.4	5	M Pattanayek	4/21/2009
Zinc	11	µg/L	1.9	5	M Pattanayek	4/21/2009

**Lab-Sample Number:** K00002289002  
**Project Name:**  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 04/16/2009 11:20  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 04/16/2009 15:16  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.44 pH Units  
**Chlorine, residual:**  
**Conductivity:** 660 uMHO  
**Temperature:** 12.51  
**Dissolved Oxygen:** 11.24 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.035J	µg/L	0.025	0.20	A Jeffries	4/22/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected

Lab-Sample Number: K00002289003

Project Name:

Sample Description: Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.: 3

Station No.: EMORY001.7RO

Date/Time Collected: 04/16/2009 11:35

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date:

Date/Time Received: 04/16/2009 15:16

Received By: E McCrary

#### Field Determinations

pH: 7.18 pH Units

Chlorine, residual:

Conductivity: 663 uMHO

Temperature: 11.81

Dissolved Oxygen: 11.51 mg/L

Other:

Flow: CFS

#### TEST: Digestion Metals

#### METHOD: EPA 200.2

ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Digestion Metals	04/20/2009				A Wilson	4/20/2009

#### TEST: ICP

#### METHOD: EPA 200.7

ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Iron	450	µg/L	2.9	10	A Bass	4/27/2009

#### TEST: ICP-MS

#### METHOD: EPA 200.8

ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Aluminum	800	µg/L	6.4	10	M Pattanayek	4/20/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	4/21/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	4/21/2009
Barium	51	µg/L	2.5	5	M Pattanayek	4/21/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	4/21/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	4/21/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	4/21/2009
Cobalt	0.40J	µg/L	0.04	1	M Pattanayek	4/21/2009
Copper	3.0	µg/L	0.38	1	M Pattanayek	4/21/2009
Lead	0.81J	µg/L	0.10	1	M Pattanayek	4/21/2009
Manganese	31	µg/L	0.42	1	M Pattanayek	4/21/2009
Nickel	1.5	µg/L	0.25	1	M Pattanayek	4/21/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	4/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	4/21/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	4/21/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	4/21/2009
Zinc	7.6	µg/L	1.9	5	M Pattanayek	4/21/2009

**Lab-Sample Number:** K00002289003

**Project Name:**

**Sample Description:** Emory River mile 1.7

**Sampler Project Name:** TVA Ash Spill

**Project Site No.:** 3

**Station No.:** EMORY001.7RO

**Date/Time Collected:** 04/16/2009 11:35

**Sampler's Name:** Geoff Klein

**County:** ROANE - 73

**Sample Matrix:** Water

**EFO:** Knoxville

**Sampling Agency:** TDEC-WPC

**Billing Code:** 327.34-20

**Send Report To:** TDEC-WPC

**Agency Invoiced:** TDEC-WPC

**Priority Date:**

**Date/Time Received:** 04/16/2009 15:16

**Received By:** E McCrary

**Field Determinations**

**pH:** 7.18 pH Units

**Chlorine, residual:**

**Conductivity:** 663 uMHO

**Temperature:** 11.81

**Dissolved Oxygen:** 11.51 mg/L

**Other:**

**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE
Mercury	0.12J	µg/L	0.025	0.20	A Jeffries	4/22/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002289004  
**Project Name:**  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 4  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 04/16/2009 11:47  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 04/16/2009 15:16  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.13 pH Units  
**Chlorine, residual:**  
**Conductivity:** 660 uMHO  
**Temperature:** 11.82  
**Dissolved Oxygen:** 11.38 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Digestion Metals	04/20/2009				A Wilson	4/20/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Iron	600	µg/L	2.9	10	A Bass	4/27/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Aluminum	600	µg/L	6.4	10	M Pattanayek	4/20/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	4/21/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	4/21/2009
Barium	45	µg/L	2.5	5	M Pattanayek	4/21/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	4/21/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	4/21/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	4/21/2009
Cobalt	0.35J	µg/L	0.04	1	M Pattanayek	4/21/2009
Copper	2.7	µg/L	0.38	1	M Pattanayek	4/21/2009
Lead	0.76J	µg/L	0.10	1	M Pattanayek	4/21/2009
Manganese	30	µg/L	0.42	1	M Pattanayek	4/21/2009
Nickel	1.3	µg/L	0.25	1	M Pattanayek	4/21/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	4/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	4/21/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	4/21/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	4/21/2009
Zinc	5.1	µg/L	1.9	5	M Pattanayek	4/21/2009

**Lab-Sample Number:** K00002289004  
**Project Name:**  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 4  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 04/16/2009 11:47  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 04/16/2009 15:16  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.13 pH Units  
**Chlorine, residual:**  
**Conductivity:** 660 uMHO  
**Temperature:** 11.82  
**Dissolved Oxygen:** 11.38 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.078J	µg/L	0.025	0.20	A Jeffries	4/22/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected



**Lab-Sample Number:** K00002289005  
**Project Name:**  
**Sample Description:** Clinch River mile 2.3 near Hwy 70 bridge  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 04/16/2009 11:58  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 04/16/2009 15:16  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.20 pH Units  
**Chlorine, residual:**  
**Conductivity:** 675 uMHO  
**Temperature:** 12.76  
**Dissolved Oxygen:** 11.30 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	04/20/2009				A Wilson	4/20/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	650	µg/L	2.9	10	A Bass	4/27/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	700	µg/L	6.4	10	M Pattanayek	4/20/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	4/21/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	4/21/2009
Barium	45	µg/L	2.5	5	M Pattanayek	4/21/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	4/21/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	4/21/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	4/21/2009
Cobalt	0.45J	µg/L	0.04	1	M Pattanayek	4/21/2009
Copper	3.1	µg/L	0.38	1	M Pattanayek	4/21/2009
Lead	0.90J	µg/L	0.10	1	M Pattanayek	4/21/2009
Manganese	37	µg/L	0.42	1	M Pattanayek	4/21/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	4/21/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	4/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	4/21/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	4/21/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	4/21/2009
Zinc	6.2	µg/L	1.9	5	M Pattanayek	4/21/2009

**Lab-Sample Number:** K00002289005  
**Project Name:**  
**Sample Description:** Clinch River mile 2.3 near Hwy 70 bridge  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 04/16/2009 11:58  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:**  
**Date/Time Received:** 04/16/2009 15:16  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.20 pH Units  
**Chlorine, residual:**  
**Conductivity:** 675 uMHO  
**Temperature:** 12.76  
**Dissolved Oxygen:** 11.30 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.065J	µg/L	0.025	0.20	A Jeffries	4/22/2009

J - Estimated value between MDL and MQL  
 MDL - Method Detection Limit  
 MQL - Method Quantitation Limit  
 U - Undetected

Lab-Sample Number: K00002289006

Project Name:

Sample Description: Clinch River mile 4.5 near Sugar Grove Valley R

Sampler Project Name: TVA Ash Spill

Project Site No.: 6

Station No.: CLINC004.5RO

Date/Time Collected: 04/16/2009 12:09

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date:

Date/Time Received: 04/16/2009 15:16

Received By: E McCrary

**Field Determinations**

pH: 7.45 pH Units

Chlorine, residual:

Conductivity: 768 uMHO

Temperature: 13.38

Dissolved Oxygen: 11.70 mg/L

Other:

Flow: CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	04/20/2009				A Wilson	4/20/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	310	µg/L	2.9	10	A Bass	4/27/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	290	µg/L	6.4	10	M Pattanayek	4/21/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	4/17/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	4/17/2009
Barium	41	µg/L	2.5	5	M Pattanayek	4/17/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	4/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	4/17/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	4/17/2009
Cobalt	0.28J	µg/L	0.04	1	M Pattanayek	4/17/2009
Copper	4.6	µg/L	0.38	1	M Pattanayek	4/17/2009
Lead	0.87J	µg/L	0.10	1	M Pattanayek	4/17/2009
Manganese	44	µg/L	0.42	1	M Pattanayek	4/17/2009
Nickel	1.7	µg/L	0.25	1	M Pattanayek	4/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	4/17/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	4/17/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	4/17/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	4/17/2009
Zinc	7.9	µg/L	1.9	5	M Pattanayek	4/17/2009

**Lab-Sample Number:** K00002289006

**Project Name:**

**Sample Description:** Clinch River mile 4.5 near Sugar Grove Valley R

**Sampler Project Name:** TVA Ash Spill

**Project Site No.:** 6

**Station No.:** CLINC004.5RO

**Date/Time Collected:** 04/16/2009 12:09

**Sampler's Name:** Geoff Klein

**County:** ROANE - 73

**Sample Matrix:** Water

**EFO:** Knoxville

**Sampling Agency:** TDEC-WPC

**Billing Code:** 327.34-20

**Send Report To:** TDEC-WPC

**Agency Invoiced:** TDEC-WPC

**Priority Date:**

**Date/Time Received:** 04/16/2009 15:16

**Received By:** E McCrary

**Field Determinations**

**pH:** 7.45 pH Units

**Chlorine, residual:**

**Conductivity:** 768 uMHO

**Temperature:** 13.38

**Dissolved Oxygen:** 11.70 mg/L

**Other:**

**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.080J	µg/L	0.025	0.20	A Jeffries	4/22/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected